

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 17, 2013

MEMORANDUM FOR: S.A. Stokes, Acting Technical Director
FROM: R.T. Davis and R.K. Verhaagen
SUBJECT: Los Alamos Report for Week Ending May 17, 2013

Plutonium Facility: This week, LANL provided the field office planned actions for FY 13 to prudently accelerate disposal and robust packaging of excess material at risk. The field office requested this action as part of the approval of the Plutonium Facility safety basis addendum associated with facility seismic performance. LANL commits to robustly repackaging and dispose of specific quantities of weapons grade plutonium currently stored in the vault. Although the actions do not significantly reduce potential offsite dose consequence that are evaluated in the safety basis for a challenging seismic accident scenario, the effort will continue to improve the vault storage configuration and provide additional space to relocate material from the laboratory floor.

Technical Area-48 Radiochemistry Laboratory (RC-1): On Wednesday, a worker at RC-1 was splashed with a small amount of uranyl nitrate solution (depleted uranium) when a glass sample container in a hood over-pressurized and burst. Immediate actions were taken to wash the worker's hands and face at an eye wash station. The worker was transported to occupational medicine and was subsequently released with no restrictions. Whole body surveys and nasal smears taken following the event did not identify personnel contamination.

Although similar experiments had been conducted in RC-1, this new activity involved multiple glass containers with limited headspace and varying molar concentrations of nitric acid. The potential for a pressurization hazard was identified in the Integrated Work Document (IWD) and action was taken to vent the containers during the initial stages of the experiment. However, the samples were left in a sealed configuration for an extended period of time when the activity was interrupted. Shortly after the worker returned to the area and relocated the sealed containers to a hood, the overpressure event occurred, breaking 9 of the 11 glass containers. RC-1 management is pursuing corrective actions including lessons learned, improvements in the IWD, and evaluation of engineered containers that will release pressure.

Plutonium Facility – Safety Basis: This week, the field office provided comments to LANL on their proposed annual updates to the Technical Area-55 Documented Safety Analysis (DSA) and Technical Safety Requirements (TSR). The field office directed LANL to revise the DSA and TSRs to incorporate resolution of the provided comments within 90 days of their receipt.

Area G – Lightning Protection System: Sorting, Segregating, Size Reduction and Repackaging activities were paused this week in domes 375 and 231. The pause was due to facility personnel identifying that scaffolding had been erected within the specified arc flash standoff distance without proper bonding to the lightning protection system. This was contrary to an administrative control for combustible loading that is an element of the fire protection program.

Radiological Laboratory, Utility, and Office Building (RLUOB): LANL began their Management Self Assessment (MSA) this week to evaluate the startup of radiological operations at RLUOB. The MSA is scheduled to complete next week. Further startup activities will follow to provide additional less than Hazard Category 3 analytical chemistry capabilities at RLUOB.